DOCUMENT RESUME

ED 160 196 PS 010 102

AUTHOR Massad, Christopher M.; Patterson, Charlotte J.
TITLE Communication Among Children: The Role of the Listener.
PUB DATE Apr 78
NOTE 11p.; Filmed from best available copy; Paper presented at the Biennial Southeastern Conference on Human Development (5th, Atlanta, Georgia, April 27-29, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Communication Skills; *Elementary School Students; Feedback; *Listening Skills; *Performance Factors; Research; *Training; Verbal Communication
IDENTIFIERS *Referential Communication Skills

ABSTRACT

This research study examined the hypothesis that listener behavior could influence the performance of young speaker-listener pairs in referential communication tasks. (In referential communication, a speaker attempts to describe a target referent in such a way that a listener can pick it out from an array of potential referents.) Subjects were 28 first graders and 24 kindergartners from a predominantly middle class public elementary school. Sixteen sets of cards were placed in front of both speakers and listener. The speaker produced a message and the listener made a choice among the referents. Half the listeners were given a plan for effective listening, which emphasized asking questions to help them figure out the right answer. Each pair of children participated in 16 trials. Results indicate that listeners may not only play an important role in determining the success of referential communication among children but may also teach speakers to function more effectively (an interactive process). Listeners in the plan condition were more likely to ask more questions, receive more information, and make more correct referent choices. Speakers in the plan condition named more crucial attributes in their final messages than did speakers in the no-plan condition, and tended to provide more adequate initial messages for trials 12-16. (SE)

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Communication Among Children: The Role of the Listener

Christopher M. Massad

Charlotte J. Patterson

University of Virginia

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PS 010102

Paper presented at the Southeastern Conference on Human Development, Atlanta, Georgia, April 29, 1978.

Communication Among Children:

The Role of the Listener

In referential communication, a speaker attempts to describe a target referent in such a way that a listener can pick it out from an array of potential referents; communicative success is assessed by the proportion of correct choices made by the listener. It has been clearly established that young children do not perform as well as older children on tasks of this sort (Glucksberg, Krauss & Weisberg, 1966; Krauss & Glucksberg, 1969). Furthermore, the difficulty experienced by young children has generally been attributed to the speaker's failure to generate adequate messages (cf. Glucksberg, Krauss & Higgins, 1975).

Recent studies (Cosgrove & Patterson, 1977; Ironsmith & Whitehurst, in press) have also investigated the role of the listener in referential communication. More specifically, they have examined the ability of the listener to respond effectively to messages which are initially ambiguous. For example, Cosgrove and Patterson asked preschool, kindergarten, second grade and fourth grade children to play the listener's role in a referential communication game. An adult confederate took the role of the speaker, and produced standardized messages which varied in their informational adequacy. As expected, all children were quite successful in using the information contained in the speaker's initial messages. When the initial message was ambiguous, however, only the fourth graders were likely to spontaneously request clarification. Since the speaker complied with such requests, fourth graders received more information and made more correct referent choices than younger children.

Cosgrove and Patterson (1977) also attempted to facilitate listener performances. Following the pre-test just described, half of the children at each

age were given a plan for effective listening which emphasized the importance of asking questions if the initial message was unclear. Although the plan had no affect on the behavior of the preschoolers, children in each of the three older age groups who received the plan performed significantly better on a post-test than those in a control condition.

These findings suggest that the listener's behavior may have an important influence on the communicative success of young speaker-listener pairs. However, in the Cosgrove and Patterson (1977) study, the speaker was an adult confederate who always responded appropriately to listener questions. Whether or not the listener's behavior can affect communicative success among children will depend on the degree to which young speakers offer more information in response to listener questions. Although findings on this point are mixed, the literature generally seems to indicate that young speakers are likely to reformulate ambiguous messages when the listener's questions are explicit in indicating what kinds of information are needed (Alvy, 1968; Flavell, Botkin, Fry, Wright & Jarvis, 1968; Glucksberg & Krauss, 1967; Karabenick & Miller, 1977; Peterson, Danner & Flavell, 1972).

Since these are exactly the kinds of questions children in the Cosgrove and Patterson (1977) study were most likely to ask, one might predict that the listener's behavior can influence the performance of young speaker-listener pairs in referential communication tasks. The present study was conducted to find out whether this is, in fact, the case.

The subjects were 28 first graders (12 boys and 16 girls) and 24 kindergartners (12 boys and 12 girls) from a predominantly middle class public elementary school. All of the kindergartners served as speakers. Due to a shortage of kindergarten children, two first graders (one assigned to each treatment condition) also served as speakers. The remainder of the first

graders played the listener role. The average age of the speakers was 5 years 5 months; for the listeners, it was 6 years and 3 months. All subjects were tested in same sex pairs.

A female undergraduate served as E1. Two female undergraduates alternated in the role of E2, each testing equal proportions in each condition.

Stimulus materials for the communication game, similar to those described elsewhere (Cosgrove and Patterson, 1977), were 16 sets of cards with one potential referent drawn into each quadrant of each card. The potential referents varied systematically in terms of binary attributes so that information about two crucial attributes would allow definitive identification of the target referent. For example, one set consisted of a monkey and a cage with the monkey either inside the cage or standing on top of it and the monkey's hands either empty or holding a banana. There were also 6 additional sets of stimuli which were used for the practice trials.

Reward certificates ("Good Player Awards") were identical to those described elsewhere (Cosgrove and Patterson, 1977).

Each session began as E1 seated the listener at one end of a small table. A divider was placed across the middle of the table so that persons seated at either end could see only each other's faces. E1 explained the referential communication game to the listener, administered a practice item, and then interviewed the child to assess his or her understanding of the rules. Each child indicated understanding of the rules, including the fact that questions were permissible.

At this point, half of the listeners (plan condition) were given a plan for effective listening. The plan emphasized that the listeners should try to decide whether they knew enough about the pictures to figure out the right answer and if not, ask questions which would help them figure it out. Each child was then given 5 practice trials with sample items. During these practice trials, E1

served as the speaker and produced standard messages, some of which were fully informative and some of which were ambiguous. Children in the no plan (control) condition did not receive instructions about the plan, but did participate in 5 practice trials.

E2 then entered the room with the child who was to play the speaker's role. E2, who was blind to the experimental condition to which the listener had been randomly assigned, conducted the remainder of the procedures, while E1 collected the data. E2 introduced the speaker and listener, and explained the communication game to the speaker. She informed the children that both speaker and listener would be awarded one point for each correct choice by the listener, and that if they won enough points, each would receive a Good Player Award like one she displayed. All children indicated their desire to do so.

After the speaker indicated his or her understanding of the rules, E2 initiated the test trials. She placed the first set of stimulus items in front of both speaker and listener, the speaker produced a message, and the listener made a choice among the referents. E2 then indicated whether or not the listener's choice was correct. Each pair of children participated in a total of 16 trials. After the last trial, each child was given a Good Player Award, thanked for participating, and returned to the classroom.

The main dependent measures were the number of questions asked by each listener, the number of correct referent choices made by each listener, the number of crucial attributes of the target referent mentioned in the speaker's initial messages, and the number of crucial attributes mentioned in the speaker's final messages. The initial message was defined as everything the speaker said before the listener made a verbal request for more information. The final message was defined as everything the speaker said before the listener marked his or her choice among the referents. If the listener asked no questions, the initial and final messages were, of course, identical. The means and standard

deviations for each of the main dependent measures are presented in Table 1.

An analysis of variance on the four dependent measures revealed no main effects for subjects' sex and no sex by condition interactions.

As can be seen in Table 1, listeners in the plan condition asked more questions, F (1,22) = 16.99, p <.001, than those in the no plan condition. Further analyses demonstrated that speakers in the plan and no plan conditions did not differ in the number of crucial attributes mentioned in their initial messages, F (1,22) = 2.27, n.s. However, speakers in the plan condition named more crucial attributes in their final messages than did speakers in the no plan condition, F (1,22) = 24.12, p <.001.

In accord with earlier findings (Glucksberg, et al., 1975), these data show that young speakers' initial messages were generally inadequate to allow identification of the target referent. However, when listeners requested more information, speakers were likely to provide it. Since listeners in the plan condition were more likely to ask such questions, they received more information and, consequently, made more correct referent choices than those in the no plan condition. These findings point to the significance of the listener role in determining the success of referential communication among children.

We also examined the possibility that speakers in the plan conditions improved their initial messages over trials as a result of their brief experience with listener feedback. In order to do this, we compared the number of crucial attributes mentioned in the speakers' initial messages for trials 1-5 as compared to trials 12-16, for plan vs. no plan subjects. As expected, informativeness of initial messages on trials 1-5 did not differ across conditions, F<1. For trials 12-16, however, there was a tendency for subjects in the plan condition to provide more adequate initial messages than those in the no plan condition, F(1,22) = 3.04, p<.10.

It appears, therefore, that the listener's influence on children's communication may be considerably greater than we originally believed. Effective listeners may not only play an important role in determining the success of referential communication among children, but they may also teach speakers to function more effectively.

Overall, the present findings serve to emphasize the importance of viewing referential communication as an interactive process. While studies of speaker ("encoding") behavior in isolation from listeners and studies of listener ("decoding") behavior in isolation from speakers can provide information about some communicative skills, they can never produce an adequate understanding of the communicative process. The listener behavior which facilitated successful communication in the present study, for example, would be unlikely to occur outside the context of actual interaction with a speaker. Yet, listener requests for clarification of a speaker's message can certainly be an important factor in accurate communication. Similarly, young speakers' reformulations of ambiguous messages are undoubtedly an important factor in achieving accurate communication, but such reformulations are unlikely to occur without clear evidence of the listener's need for more information. Therefore, recognition of the listener's influence over the success of children's communication should not serve to minimize the importance of the speaker's contribution; rather, it should serve to underline the importance of speaker-listener interactions.

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Table 1

Mean number of questions asked and number of correct referents chosen by listeners and mean number of crucial attributes of the target referent mentioned in speakers' initial and final messages as a function of instructional condition

		Listener		Speaker			
Condition		Number of Questions Asked	Number of Correct Choices	Number of Crucial Attributes in Initial Message (All trials)	Number of Crucial Attributes in Final Message (All trials)	Number of Crucial Attributes in Initial Message (First 5 trials)	Number of Crucial Attributes in Initial Message (Last 5 trials)
Plan	M	9.00	13.46	19.62	28.15	4.00	5.85
(n=13)	SD	(1.17)	(1.45)	(6.69)	(3.87)	(1.83)	(1.82)
No Plan	M	0.42	3.33	15.00	15.31	3.75	4.58
(n=13)	SD	(1.17)	(3.11)	(8.67)	(8.42)	(2.34)	(1.98)